

Notice of Allowability

Application No.

10/715,057

Examiner

Steven J. Fulk

Applicant(s)

MERKULOV ET AL.

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

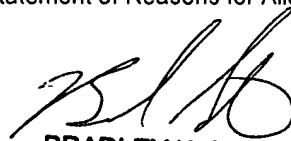
1. ☒ This communication is responsive to the amendment filed March 1, 2006.
2. ☒ The allowed claim(s) is/are 20,22-31,38-41 and 45-47.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


BRADLEY K. SMITH
PRIMARY EXAMINER

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed March 1, 2006, which cancels claims 1-19, 21, 32-37 and 42-44 and amends claims 20, 22, 25, 38 and 45 has been entered. Claims 20, 22-31, 38-41 and 45-47 are currently pending.

Terminal Disclaimer

2. The terminal disclaimer filed on March 1, 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,649,431 has been reviewed and is accepted. The terminal disclaimer has been recorded. Therefore, the obviousness-type double patenting rejection of claims 20-31 has been withdrawn.

Response to Arguments

3. Applicant's arguments, see page 7, with respect to the rejection of claims 45-47 under 35 U.S.C. 112, 2nd Paragraph, have been fully considered and are persuasive. The rejection of claims 45-47 under 35 U.S.C. 112, 2nd Paragraph, has been withdrawn.

4. Applicant's arguments, see pages 7-8, with respect to the rejection of claims 20, 22-23, 25, 26, 28-31 and 45-47 under 35 U.S.C. 102(b) have been fully considered and are persuasive. The rejection of claims 20, 22-23, 25, 26, 28-31 and 45-47 under 35 U.S.C. 102(b) has been withdrawn.

5. Applicant's arguments, see page 8, with respect to the rejection of claims 38-41 under 35 U.S.C. 102(e) have been fully considered and are persuasive. The rejection of claims 38-41 under 35 U.S.C. 102(e) has been withdrawn.

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6. Applicant's arguments, see page 9, with respect to the rejection of claims 24 and 27 under 35 U.S.C. 103(a) have been fully considered and are persuasive. The rejection of claims 24 and 27 under 35 U.S.C. 103(a) has been withdrawn.

Allowable Subject Matter

7. Claims 20, 22-31, 38-41 and 45-47 are allowed.

8. The following is an examiner's statement of reasons for allowance: a reasonable search of the prior art did not find an electron emitter apparatus comprising a carbon nanostructure with a carbon containing, cylindrically symmetrical expanded base including a carbon containing, cylindrically symmetrical extension, as recited by independent claims 20, 38, and 45.

Blanchet-Fincher et al. '677 discloses a carbon-base electron emitter including a carbon containing extension, but both the base and the extension are asymmetrical.

Yoshiki '605 discloses an electron emitter with a carbon containing expanded base, but the base is asymmetrical.

Keesmann et al. '223 and Lee et al. '281 disclose a carbon rod electron emitter with an expanded base, but the base consists of a metal and is not carbon containing.

Jin '132, Uemura et al. '547, Chuang et al. '931, and Xu et al. '422 disclose a carbon rod electron emitter, but the emitter does not include a carbon containing, cylindrically symmetrical expanded base.

Bardai et al. '070, Kubota et al. '941, Greene et al. '308, Itoh et al. '885, Iwasa et al. '790 and Takemura et al. '322 disclose electron emitters with an expanded base, but the base is not carbon containing.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

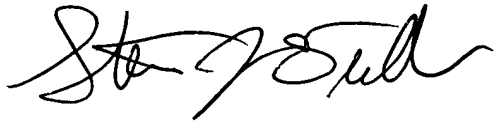
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven J. Fulk whose telephone number is (571) 272-8323. The examiner can normally be reached on Monday through Friday, 9:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Baumeister can be reached on (571) 272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

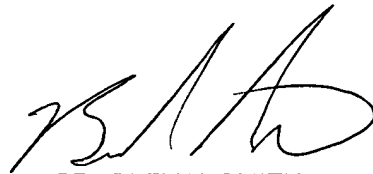
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11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven J. Fulk
Patent Examiner
Art Unit 2891

May 15, 2006



BRADLEY K. SMITH
PRIMARY EXAMINER